Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for atraumatic isolated headache--when to image.

BIBLIOGRAPHIC SOURCE(S)

Masdeu JC, Drayer BP, Anderson RE, Braffman B, Davis PC, Deck MD, Hasso AN, Johnson BA, Masaryk T, Pomeranz SJ, Seidenwurm D, Tanenbaum L. Atraumatic isolated headache--when to image. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun;215(Suppl):487-93. [38 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Atraumatic isolated headache

GUIDELINE CATEGORY

Diagnosis

CLINICAL SPECIALTY

Family Practice
Infectious Diseases
Internal Medicine
Neurological Surgery
Neurology
Pediatrics
Radiology

INTENDED USERS

Health Plans
Hospitals
Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of initial radiologic examinations for atraumatic isolated headache

TARGET POPULATION

Patients with atraumatic isolated headache

INTERVENTIONS AND PRACTICES CONSIDERED

1. Skull x-ray
2. Computed tomography
3. Computed tomography plus contrast
4. Computed tomography angiography
5. Magnetic resonance imaging
6. Magnetic resonance imaging plus contrast
7. Magnetic resonance angiography
8. Catheter angiography
9. Ultrasound
10. Single-photon emission computed tomography

MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in differential diagnosis

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the ACR Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Clinical Condition: Headache

Variant 1: Worsened chronic headache. History of headache.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Computed tomography		
Computed tomography	4	
Computed tomography + contrast	4	
Computed tomography angiography	2	
Magnetic resonance		
Magnetic resonance imaging	4	
Magnetic resonance imaging + contrast	4	
Magnetic resonance angiography	2	
Catheter angiography	2	
Nuclear medicine		

Single-photon emission computed tomography	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Headache

Variant 2: Sudden onset of severe headache ("Worst headache of one´s life, thunderclap headache").

Radiologic Exam Procedure	Appropriateness Rating	Comments
Computed tomography		
Computed tomography	9	
Computed tomography angiography	4	
Magnetic resonance		
Magnetic resonance imaging	6	
Magnetic resonance angiography	6	
Catheter angiography	6	
Ultrasound	2	
Nuclear medicine		
Single-photon emission computed tomography	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Headache

Variant 3: Sudden onset of unilateral headache or suspected carotid or vertebral dissection; ipsilateral Horner´s syndrome.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance		
Magnetic resonance imaging	8	
Magnetic resonance angiography	8	
Catheter angiography	6	
Computed tomography		
Computed tomography	6	If magnetic resonance imaging not available or emergency management.
Computed tomography angiography	4	
Ultrasound	4	
Nuclear medicine		
Single-photon emission computed tomography	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Headache

Variant 4: Chronic headache, suspected sinusitis.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Computed tomography	8	
Skull x-ray	4	

Magnetic resonance	4	
Ultrasound	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Headache

Variant 5: New headache in patient older than age 60. Sedimentation rate higher than 50, temporal tenderness.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance		
Magnetic resonance imaging	8	
Magnetic resonance angiography	4	
Computed tomography		
Computed tomography	6	
Computed tomography angiography	4	
Catheter angiography	4	
Ultrasound	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Headache

Variant 6: New headache in HIV-positive individual.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Magnetic resonance		
Magnetic resonance imaging	8	
Magnetic resonance imaging + contrast	8	
Computed tomography		
Computed tomography	6	If magnetic resonance imaging not available.
Computed tomography + contrast	5	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Summary

Screening patients with isolated, nontraumatic headache by means of computed tomography or magnetic resonance imaging is not warranted. However, there are some types of headache or populations at risk where these procedures are more likely to be positive. Thunderclap headaches, headaches radiating to the neck, and temporal headaches in an older individual are examples of headaches for which imaging procedures may be helpful. HIV-positive individuals, cancer patients, or other populations at high risk of intracranial disease also should be screened when presenting with new-onset headaches.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate selection of radiologic exams to diagnose patients with atraumatic isolated headache.

Subgroups Most Likely to Benefit:

Thunderclap headaches, headaches radiating to the neck, and temporal headaches in an older individual are examples of headaches for which imaging procedures may be helpful. Also, patients who are HIV-positive, have cancer, or other populations at high risk of intracranial disease should also be screened when presenting with new-onset headaches.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Masdeu JC, Drayer BP, Anderson RE, Braffman B, Davis PC, Deck MD, Hasso AN, Johnson BA, Masaryk T, Pomeranz SJ, Seidenwurm D, Tanenbaum L. Atraumatic isolated headache--when to image. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun;215(Suppl):487-93. [38 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 1999)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria™.

GUIDELINE COMMITTEE

ACR Appropriateness Criteria™ Committee, Expert Panel on Neurologic Imaging

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Names of Panel Members: Thomas Masaryk, MD; Burton P. Drayer, MD; Robert E. Anderson, MD; Bruce Braffman, MD; Patricia C. Davis, MD; Michael D. F. Deck, MD; Anton N. Hasso, MD; Blake A. Johnson, MD; Stephen J. Pomeranz, MD; David Seidenwurm, MD; Lawrence Tanenbaum, MD; Joseph C. Masdeu, MD, PhD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It is a revision of a previously issued version (Appropriateness criteria for atraumatic isolated headache-when to image.

Reston [VA]: American College of Radiology [ACR]; 1996. 7 p. [ACR Appropriateness Criteria™]).

The ACR Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence. The next review date for this topic is 2004.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American College of Radiology (ACR) Web site.

Print copies: Available from ACR, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on July 31, 2001. The information was verified by the guideline developer as of August 24, 2001.

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